The Big 5 Personality Traits on Instagram and TikTok and
Their Connections to Real-Life Personalities

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Math Senior Seminar

May 2025

Abstract

The purpose of this study was to investigate people's personalities in real life and on Instagram and TikTok. Previous research has found that certain parts of people's personalities are shown on Instagram and TikTok. We hypothesize that there is a relationship between Big 5 personality traits in real life and Instagram, real life and TikTok, and TikTok and Instagram. A total of 39 high school students took a personality test and provided their social media accounts, and two researchers looked over their accounts and rated their personalities on the accounts. We found that there is no relationship between real life and Instagram, and no relationship between real life and TikTok. Lastly, we found a few relationships between personalities on TikTok and Instagram. People tend to present their levels of extraversion, openness, and agreeableness similarly on both platforms. Our data suggest that social media users should not judge people by what they post on social media because it may not be an accurate reflection of their true personalities.

Introduction

People use social media every day to express their inner thoughts, but does your social media account display how you are in real life, and does it change from platform to platform? In America, 58% of teens use TikTok every day, and 50% of teens use Instagram on a daily basis (1). Due to so many teens using social media, they need to know if it ties back to their personalities and if it differs across platforms. To understand the relationship between personality and social media, we looked at what the Big 5 personality traits are, and what the research says about personality on TikTok and Instagram. Our study is important because it compares our personalities on two different platforms. We gave students a survey measuring their personality, and we then viewed their TikTok profile and Instagram profile to look for the correlation between the three.

The 5 personality traits are openness, conscientiousness, extraversion, agreeableness, and neuroticism (2). The trait of openness is always open to learning new things about the world and people. They want to learn new things and have new experiences. Conversely, people are way too traditional and have trouble with abstract thinking. Next, Conscientiousness describes a person who has good behavior, is very organized, and is mindful of details. They are always the people who are ahead and spot on. Extraversion is a personality trait of a more sociable and outgoing person. Extraversion is the social butterfly of the party and likes to interact with others. Agreeableness is more of a kind person, somebody you can trust, and really is the competitive type. Neuroticism is a person who has mood swings and easily feels as sadness, emotions, anxiety, and moodiness These traits are important to our study because we want to see if people's personalities are different on Instagram and TikTok and if these are separate from their real personalities, therefore we need to understand these words.

On TikTok, a popular video-sharing social media app, users are becoming more attuned with their personality traits and how they focus on the usage of the app (3). Omar and Dequan surveyed a total of 385 TikTok users to explore their personalities and motivations. The users' motivations and not so much of their personality traits explained how people used TikTok. None of the big five personality traits related to what people watched or posted on TikTok" (3)". However, people shared some common motivations. Social interaction explains people's comments, likes, and live videos. Archiving explains people's habit of posting to save things for later, like a memory. Escapism explains how people watch videos to not be in the real world for a bit. Finally, self-expression means that people watch and make videos that explain their motivations and feelings. This explains the huge level of people's behavior on TikTok but it differs in influences and levels (3). For our study, this suggests people's personalities might not be observable from the app, unlike their motivations.

Instagram is more than photos, it is an app where people text, comment, like, reply, etc. Research suggests this text might be important, too (4). Subramani wanted to see if users' Instagram pictures and captions would predict their Big Five personality traits. A total of 86 people were surveyed, 62 of whom were active users. Conscientious people tend to post cool-colored photos, while extroverted people have warmer photos, and neurotic people tend to have extremely dark or light photos. When it comes to text, open people wrote about news and

events, and conscientious and neurotic people focused on clothing style. Extraverted people wrote about art and music, and agreeable people wrote about photography. Overall, this suggests that people can identify personalities based on their photos and text on Instagram (4).

Other research has also suggested that Instagram may have a relationship with personality traits and how people use it. Jennewein et al. conducted a study on how your personality can be defined by a person's Instagram usage. The study consisted of a total of 402 people, 163 users and 239 non-users. They gave the participants an online survey measuring their Instagram usage and measured their personality using the NEO Five-Factor Inventory. The first finding was that Instagram users have no differences in personality compared to people who don't; Instagram users are just regular people. They also found some interesting patterns: (a) conscientiousness people visit Instagram for a shorter time, (b) extroverted people have more followers and more people following them, (c) agreeable people tend to have private profiles, and (d) extraverted people are on the platform longer and emotionally fragile join later in life (5). This topic is important because different personalities use Instagram differently. We are interested in different personalities on different platforms, so knowing that different personalities use Instagram differently helps us be confident we can guess who they are and see if that's true.

On TikTok, people create videos of themselves lip-syncing, dancing, posing, or doing skits in order to share with friends. Is it possible to predict one's personality from these personal videos? Dong and Xie surveyed 177 TikTok users in China to measure their personality. Next, two people watched all of the videos, and they were coded to capture what they did in the videos (acting, camera in front, smiling, face visibility, etc). The major finding in this paper was that they were able to predict who was extroverted based on watching TikTok videos but none of the other four personality traits. However, age and gender played an important part in the videos, as different ages and genders did different things (6). This topic is important because it shows us that age and gender are related to the context of TikTok videos and may be more important than personality (except for extraversion).

Overall, the researcher says that some of the Big 5 personality traits are reflected in our behavior on Instagram (2). However, TikTok is less likely to relate to the 5 personality traits based on their behavior (2). This study contributes to our understanding of personalities on TikTok and Instagram by examining both social media platforms by the same group of people. It's also important because our study will be on teens, and teens' personalities are still developing, meaning they might be influenced by social media. In this study, we conducted a survey to measure people's 5 personality traits. We also got their social media accounts and watched them. Then, a panel of experts viewed their social media feed and scored their big 5 personality traits based on what they say. We're going to look for a relationship between the two.

We hypothesize there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on Instagram. This is because research suggests that some parts of your personality are also evident on Instagram("Subramani" 5). We hypothesize there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on TikTok.

This is because most researchers suggest that TikTok does not reflect your personality except for extraversion("Dong and Xie" "Omar and Dequan"). We hypothesize there is a relationship between Big 5 personality traits on TikTok and Big 5 personality traits on Instagram. Research has not explored how Instagram and TikTok are related regarding people's personalities.

Materials and Methods

A total of 39 high school students from The Neighborhood Academy participated in the study. All participants were African American, composed of males (49%) and females (51%) from grades 11 and 12 and between the ages of 16 and 18.

The participants gave a survey as the Big Five Inventory-10 (BFI-10) to measure their 5 personality traits, which are Openness, Conscientiousness, Neuroticism, Agreeableness and Extraversion (1). This survey consisted of 10 statements in total with 2 statements for each personality trait. For example, extraversion is measured by the statement of, " I see myself as someone who… is outgoing, sociable. In the end, the person will have a score out of 10 for each personality trait.

Another researcher and the primary researcher rated people's social media profiles by their facial expressions, poses, filters, and the things they post. We judge their profiles holistically, as if a person were to judge a person's profile. Before doing the study and rating people's personalities, another researcher and I did a couple of practice runs to see if we had around the same number. All 5 personality traits have very high interrater reliability, meaning my partner and I tended to rate people the same way. We averaged together each of our scores to make one combined score for every personality trait for each person.

Relationships between the big 5 personality traits in real life and on Instagram and TikTok were calculated using a correlation coefficient R-Test. All tests were calculated using vassarstats.net with a 0.05 significant threshold.

Results

My topic is seeing if people have the same personality in real life and then on TikTok and Instagram. Me Another researcher and I rated people's personalities based on their social media accounts to see if it's the same in real life. The people took a personality survey to message their personality and the big 5 personality traits.

First, we hypothesized there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on Instagram. The real life numbers came from people's responses on the quiz. The Instagram personality ratings came from the average of 2 researchers' ratings when they looked at people's profiles. The r-tests revealed no significant relationship between any of the 5 personalities between IRL and on Instagram. The r-values and p-values are in Table 1 and Figure 1 below.

Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
r=0.10 p=0.53	r= 0.05 p=0.77	r=0.24 p=0.15	r=0.24 p=0.16	r=0.24 p=0.16

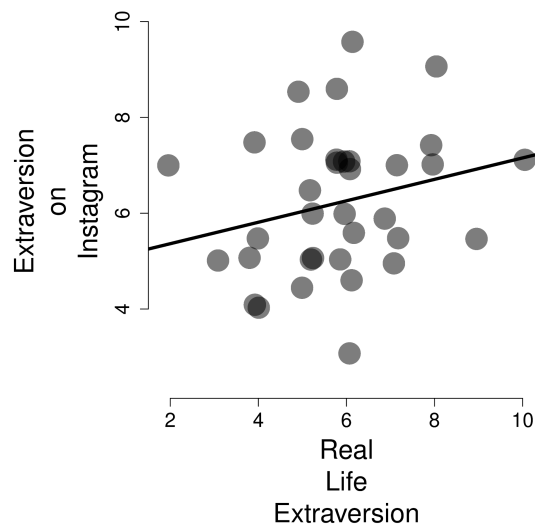**Table 1. R-values and P-values for Real Life and Instagram.**

Second, we hypothesized that there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on TikTok. The r-tests revealed no significant relationship between any of the 5 personalities between IRL and on TikTok. The r-values and p-values are in Table 2 and Figure 2 below.

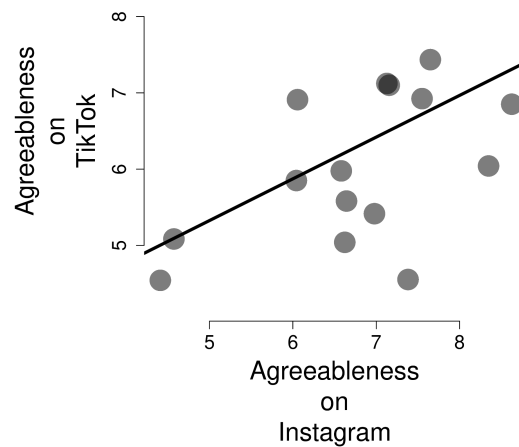| Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
r= - 0.04 P= 0.84	r= - 0.35 p= 0.12	r= 0.20 p= 0.38	r= - 0.09 p= 0.68	r= - 0.12 p= 0.18

Table 2. R-values and P-values for Real Life and TikTok.

Third, we hypothesized there is a relationship between your personality on TikTok and your personality on Instagram. Conscientiousness and Neuroticism do not display a relationship between TikTok and Instagram personalities. For Openness, an r-test did find a significant relationship between TikTok and Instagram personalities (r=0.67, p=0.001). That means that the more open you appear to be on TikTok, the more open you appear to be on Instagram. For Extraversion, an r-test did find a significant relationship between TikTok and Instagram personalities (r=0.48, p=0.03). That means that the more extroverted you appear to be on TikTok, the more extroverted you appear to be on Instagram. For Agreeableness, an r-test did find a significant relationship between TikTok and Instagram personalities (r=0.50, p=0.01). That means that the more agreeable you appear to be on TikTok, the more agreeable you appear to be on Instagram (Table 3).
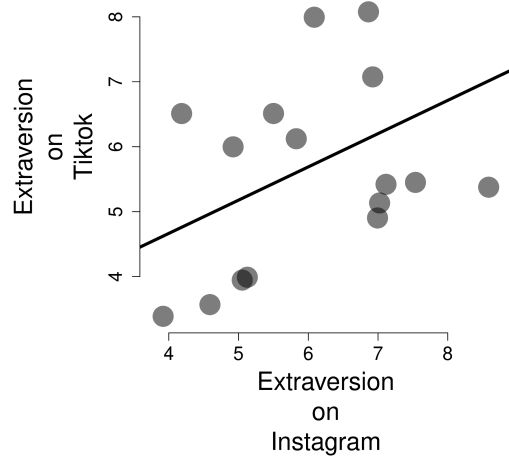
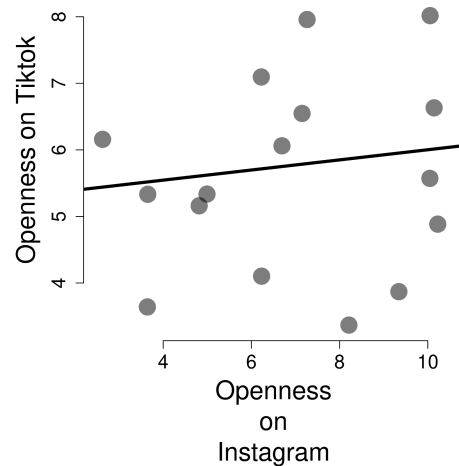| Openness	Conscientiousness	Extraversion	Agreeableness	Neuroticism
r= 0.67 p= 0.001	r= 0.22 p= 0.20	r= 0.48 p= 0.03	r= 0.50 p= 0.02	r= 0.24 p= 0.18

Figure 1. No relationships between extraversion on Instagram and real-life extraversion. 35 high school students rated their personalities, and then 2 researchers rated their Instagram profiles based on Extraversion. An r-test found no relationship between Extraversion in real life and Extraversion on Instagram (r= 0.24, p = 0.15)
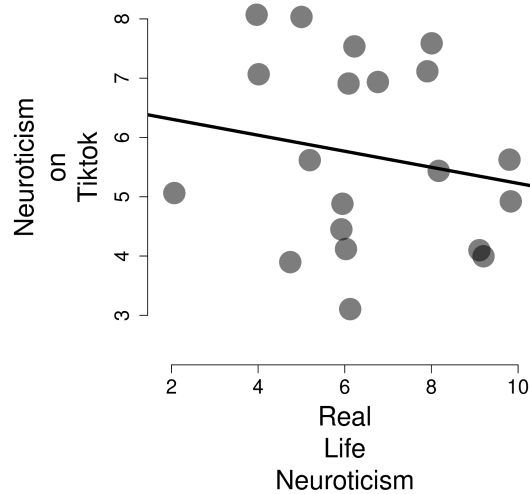

Figure 2. Shows a relationship between agreeableness on Instagram and agreeableness on TikTok. 17 high school students rated their personality, and then 2 researchers then rated their Instagram and TikTok profiles based on Agreeableness. A r-test found a correlation between Agreeableness on TikTok and Agreeableness on Instagram. (r= 0.50, p = 0.02) The more agreeable a person appears on Instagram, the more agreeable they will appear on TikTok.

Figure. 3 Shows a relationship between extraversion on Instagram and extroversion on TikTok. 17 high school students rated their personality, and then 2 researchers then rated their Instagram and TikTok profiles based on Extraversion. An r-test found a correlation between Extraversion on TikTok and Extraversion on Instagram. (r= 0.48, p = 0.03) The more extraverted a person appears on Instagram, the more extraverted they will appear on TikTok.

Figure 4. Shows a relationship between openness on Instagram and openness on TikTok. 17 high school students rated their personality, and then 2 researchers rated their Instagram and TikTok profiles based on Openness. An r-test found a correlation between Openness on TikTok and Openness on Instagram. (r= 0.67, p = 0.001) The more open a person appears on Instagram, the more open they will appear on TikTok.

Figure 5. No relationships between neuroticism on TikTok and real-life neuroticism. 20 high school students rated their personalities, and then 2 researchers then rated their TikTok profiles based on Neuroticism. A r-test found no relationship between Neuroticism in real life and Neuroticism on TikTok. (r= 0.18, p = 0.43)

Discussion

In this study, we determined if your personality can be shown on Instagram and TikTok. Our first hypothesis was that there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on Instagram (Figure 1). This was not supported because we did not find any relationship at all between the Big 5 personality traits in real life and the Big 5 personality traits on Instagram. Our second hypothesis was that there is a relationship between Big 5 personality traits in real life and Big 5 personality traits on TikTok. This was also not supported because we did not find any relationship between Big 5 personality traits in real life and Big 5 personality traits on TikTok. The third hypothesis was there is a relationship between your personality on TikTok and your personality on Instagram. This was partially supported because we found positive relationships between openness, extraversion and neuroticism, but agreeableness and conscientiousness levels were not related to each other on TikTok and Instagram.

Our results are inconsistent with other studies by Subramani (4). Subramani found that people with different personalities tend to do different and unique things on social media but we found no connections between their real life personality and in real life personality (4). These studies do not support the claim about personality and Instagram, we found people's personalities had no effect on how they portray themselves on Instagram. This result makes sense to us because people put on a different persona on social media than in person. This result also doesn't make sense because you usually can guess how a person is or their

personality based on what they post and put on their media. Therefore, people's personalities on Instagram are pretty much complicated and how a person shows themselves online is not necessarily who they are.

Our results are consistent with other studies by Omar and Dequan (3). Omar and Dequan found people's motivations explaining their TikTok profiles and not their personalities (3), and we found a connection in that your personality does not show up on TikTok. We argue that TikTok is not who we really are in real life, but there are some connections from how people's personalities are displayed on Instagram. These studies show that how you present yourself on social media is not who you really are in real life.

Our study had two major limitations. Our first limitation was that a lot of people had TikTok accounts, but really nobody posted on their TikTok accounts, which was frustrating because we didn't have a lot of data due to that reason. Even the people who posted on TikTok only had a few TikTok posts but really didn't show much of the Big 5 Personality traits. Our second limitation ties back on our first, not a lot of people posted on their Instagram. Our suggestion would be to only collect people's TikTok and Instagram who actually are active on those social media accounts.

A future improvement could be recruiting people who actually are active on their Tiktok and Instagram accounts. I advise our future researchers to pull each high school class one by one and ask who actually posts on their TikTok and Instagram. If they do, the future researcher should get a check board with the students name and they check their name off. Finally, once the researchers review the checklist we find the students and ask them to take a short mini survey.

According to our research, a person's social media doesn't really reflect a person's personality. Therefore, users should be themselves on social media because people are judging users based on what users post. Users should be their authentic self and don't change themselves for social media. For the social media watchers, you cannot judge a book by its cover. Most people on social media portray themselves to be what society enjoys, meaning they are not being themselves. Our advice is to not judge anybody by what they post because it is not accurate.

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